REMARKS

By this Amendment the specification has been amended to correct certain errors, and claims 1 and 2 have been canceled and replaced by new claims 10-12, which better define the inventive method. Entry is requested.

In the outstanding Office Action the examiner has rejected claims 1 and 2 under 35 U.S.C. 112 as being indefinite and incomplete in defining the invention.

By this Amendment claims 1 and 2 have been canceled and replaced with new claims 10 and 11, which are believed to be clear and concise in defining the inventive method.

The examiner has rejected claims 1 and 2 under 35 U.S.C. 102 as being anticipated by Steinruck, Ramsay or Courtney. The inventors assert that this rejection is incorrect.

Steinruck discloses a device and method for influencing the periodic stroke movement of the closing element of a valve which is quite complicated and requires hydraulic assist energy and devices (note that this patent is a counterpart to Austrian Patent 403,835, which is referred to on page 5 of the present application). The pneumatic systems of the present invention have the advantage that they can use the gas pressure provided by the compressor being controlled. Steinruck provides an unloading force for the unloader by hydraulic means acting against the

reverse-flow force of the gas to be compressed, whereby this unloading force is suddenly reduced at a specific crank angle to secure a rapid closing of the suction valve. According to the low compressability of the employed actuation fluids, such hydraulic devices are highly suitable, but have the disadvantage that they are relatively complicated in design and they need additionally hydraulic pressure medium which must be provided through additional apparatus.

According to the present invention there is no need for additional hydraulic apparatus because the unloader now uses just pressurized gas (as already mentioned in the state of the art description at the beginning of page 1).

As the pressure in hydraulic systems (as proposed in Steinruck for instance) can be changed and modulated very quickly because of the inner stiffness of the medium, there is no need for the pressure biasing the unloader piston to be always above the pressure required to overcome the maximum possible reverse-flow force. As - on the other hand - the pressure in pneumatic systems (as used in the present application) can obviously not be changed in that way, it would not be obvious for a person of ordinary skill in the art just to use gaseous pressure medium instead of hydraulic pressure medium. According to the present invention, such is possible now, if the gas pressure biasing the unloading piston is held always above the gas pressure required to overcome the maximum possible reverse-flow force during the time in

which said control valve is closed and in that a controllable partial discharge of the unloading cylinder is performed until the closing of the suction valve through a rapid switching control valve.

Ramsay discloses an unloader for a refrigerant compressor, which unloader includes suction valve reeds of spring metal, the reeds normally being biased by their spring tension to closed positions, the cylinder having an unloader cylinder with a piston therein, the unloader including means connected the piston and reeds for moving the reeds to open positions when oil is admitted into the unloader cylinder against the piston, the unloader including oil supply means including an oil inlet in the unloader cylinder connected to the compressor for supplying oil from the compressor into the unloader cylinder for causing the piston to move the reeds to open positions for unloading the compressor cylinder. The unloader includes means connected to the supply means between the compressor and the oil inlet for shutting off the supply of oil to the unloader cylinder, and means for relieving the oil pressure against the piston after the oil supply has been shut off, the means including relatively small passage means connecting the oil inlet through the reeds with the inlet of the compressor.

Courtney discloses a control system for a cylinder of a refrigerant compressor, which compressor includes a suction tube connected to a suction side, a discharge tube connected to a discharge side, the cylinder having suction valve reeds, and unloader cylinder and a piston in the

unloader cylinder connected to the suction reeds and movable to open or allow closure of the reeds, and a two-way pressure control valve to the discharge tube, a check valve connected to and between the control valve and the unloader cylinder, a two-way suction control valve connected to and between the suction, tube and unloader cylinder, pressure control valve opening and closing means connected to the pressure control valve, suction control valve opening and closing means connected to the suction control valve, and control means connected to the pressure control valve opening and closing means and to the suction control valve opening and closing means for actuating the pressure control valve opening and closing means to open the pressure control valve to supply discharge gas from the discharge tube through the pressure control valve and the check valve into the unloader cylinder to move the piston in the one direction, and simultaneously actuating the suction control valve opening and closing means to close the suction control valve, or for actuating the pressure control valve opening and closing means to close the pressure control valve, and simultaneously actuating the suction control valve opening and closing means to open the suction control valve to apply suction from the suction tube through the suction control valve to the unloader cylinder to move the piston in an opposite direction, the check valve preventing gas from flowing from the unloader cylinder into the pressure control valve.

Clearly, neither Ramsay nor Courtney disclose a method as now defined in claims 10 and 11.

Favorable reevaluation is requested.

Respectfully submitted,

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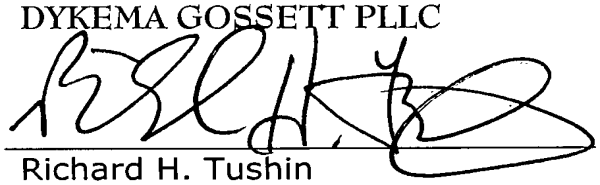
By: 

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